

of beach-related stamps. On the other hand, if the space-starter scene is selected, then selection of icon 204 would present a pop-up menu box of space-related stamps.

[1041] Again, as noted above, the difference in the selectable options presented in the pop-up menu box represents one example of a characteristic of a tool that can be modified based on a state of interaction with a particular activity. Any characteristic that governs some aspect of usability for the tool can be modified based on the state of interaction with a particular activity.

[1042] As thus described, the dependence of the characteristics of the tools on the identity and/or state of the activity to which it is being applied enables the core set of tools to be flexibly and appropriately applied to the various activities. This flexible application ensures that the user is presented with a consistent set of interactive tool functions.

[1043] FIG. 6 illustrates a hardware embodiment of hand-held electronic toy 100. This hardware embodiment includes LCD controller 610. In one embodiment, LCD controller 610 is the SPL130A 128KB LCD controller manufactured by Sunplus Technology Company Limited. In general, LCD controller 610 is a microprocessor that includes random access memory (RAM) and ROM that are used to store data and program information. LCD controller 610 also includes programmable I/Os that enable the driving and communicating with other components.

[1044] In the illustrated embodiment, two interfaces 620 and 630 are shown. Interface 630 enables communication with expansion cartridge 130. Interface 620, on the other hand, enables communication and control with the LCD display and touch panel. Interface 620 includes interface portions 622 and 624. Interface portion 622 is configured for

communication of touch panel coordinate information (x1, x2, y1, y2), while interface portion 624 is configured for communication of LCD control information.

[1045] FIG. 7 illustrates an embodiment of control elements associated with LCD display 710 and touch panel 720. As illustrated, touch panel 720 is coupled to interface portion 622 for communication of touch panel coordinates (x1, x2, y1, y2).

[1046] LCD display 710 is driven by LCD controllers 712, 714. In one embodiment, LCD controllers 712, 714 are the SPLD80A LCD controllers manufactured by Sunplus Technology Company Limited. In general, LCD controllers 712, 714 are versatile dot matrix LCD drivers that convert serial data to parallel data and output LCD waveform data to LCD display 710. As illustrated, two LCD controllers 712, 714 are used to drive the rows and columns of LCD display 710.

[1047] Referring again to FIG. 6, it was noted that interface 630 enables communication with expansion cartridge 130. FIG. 8 illustrates an embodiment of expansion cartridge 130. Expansion cartridge 130 includes bus extender 810 and external ROM/SRAM 820. In one embodiment, bus extender 810 is the Sunplus bus extender, SPBA01A, which expands RAM or ROM up to 4M bytes. This expansion of memory enables additional activities to be added to the base software system, thereby expanding the creativity and learning applications that are available to the user of hand-held electronic toy 100.

[1048] FIG. 9 illustrates a second embodiment of expansion cartridge 130. In this embodiment, expansion cartridge 130 includes bus extender 810, external ROM/SRAM 820 as well as RAM 910. The addition of RAM 910 can be used in activities that require additional dynamic memory, such as for animation effects.

[1049] It should be noted that in a further embodiment, expansion cartridge 130 can also be configured to include a microprocessor element as well. In this embodiment, when expansion cartridge 130 is inserted into hand-held electronic toy 100, the microprocessor in expansion cartridge 130 would take control and instruct LCD controllers 712, 714 what to display on LCD display 710.

[1050] While the invention has been described in detail and with reference to specific embodiments thereof, it will be apparent to one skilled in the art that various changes and modifications can be made therein without departing from the spirit and scope thereof. For example, in the description above, expansion cartridges are described as a vehicle for receiving activity information into the hand-held electronic toy. More generally, it should be noted that the hand-held electronic toy can be configured such that activity information can be received from a second hand-held electronic toy, the Internet, or any other information source. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.